

## REMARKS

Claims 1-30 are pending in the present application, were examined and stand rejected. In response, Claims 1, 3, 10, 11, 13, 20, 21, 26 and 28 are amended, no claims are cancelled and Claim 31 is added. Applicants respectfully request reconsideration of pending Claims 1-31 in view of at least the following remarks. Reconsideration and withdrawal of the rejections of record are requested in view of such amendments and the following discussion.

### **I. Claims Rejected Under 35 U.S.C. §102**

The Examiner has rejected Claims 1-5, 9-15 and 19-30 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,566,950 issued to Rokhsaz ("Rokhsaz"). Applicant respectfully traverses this rejection.

Regarding Claims 1 and 26, Claims 1 and 26 are amended to recite a predriver circuit for a differential output driver, which are neither disclosed nor suggested by Rokhsaz, comprising:

a pull-up circuit having at least one pull-up device of a first device type; and  
a pull-down circuit including at least one pull-down device of the first device type having a source coupled to ground, the pull-up circuit and the pull-down circuit to charge an output node and a complement output node in opposite directions to generate a differential predriver signal pair to open/close a pair of line driver switches of the output driver of a second device type to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto a motherboard for communication over a serial interconnect. (Emphasis added.)

In contrast to the above-recited features of amended Claims 1 and 26, Rokhsaz recites a differential line driver for fiber optic transmission of data. As indicated by Rokhsaz, communications of data over a communications network which may include a public switch telephone network, the Internet, such as local area networks (LAN), wide area networks (WAN) and other like communication of such data may be performed using transmission protocols such as asynchronous transfer mode (ATM), asymmetrical digital subscriber line (ADSL), integrated services digital network (ISDN) or the like. (*See*, col. 1, lines 12-25.)

As explicitly disclosed by Rokhsaz:

Regardless of the data transmission protocol, the transmission of data between user and network switch, network switch and network switch, and network switch and user is via a wireless, wireline, and/or fiber optic transmission line. As is known, high frequency components of signals that are transmitted over a wireless transmission are adversely effect [sic] by the frequency response characteristics of the wireline transmission line. To reduce the adverse effect, each of the data transmission protocols includes techniques to recover the high frequency components of the transmitted data and requires the use of line drivers.

As is known, line drivers receive a low power input signal and increase its power such that the signal can drive a wireline transmission line. (col. 1, lines 26-41.) (Emphasis added.)

Hence, Applicant respectfully submits that the disclosure in Rokhsaz is directed to telecommunications, and more particularly, to line drivers that are used in telecommunications equipment. (See, col. 1, lines 6-8.) In contrast, as recited by amended Claims 1 and 26, Claims 1 and 26 disclose a predriver for a differential output driver to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto a motherboard for communication over a serial interconnect.

According to the Examiner, the predriver circuit, recited by amended Claims 1 and 26 is disclosed by pull-up circuit (elements 138, 142 of FIG. 6) and pull-down circuit (including elements 140 and 144, as shown in FIG. 6) of Rokhsaz. Accordingly, Applicant amends Claims 1 and 26 to recite the following feature, which has neither disclosed nor suggested by Rokhsaz:

the pull-up circuit and the pull-down circuit to charge an output node and a complement output node in opposite directions to generate a low swing differential predriver signal pair to open/close a pair of line driver switches of the output driver of a second device type to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto a motherboard for communication over a serial interconnect. (Emphasis added.)

In contrast to such recited features of amended Claims 1 and 26, as shown in FIG. 6 of Rokhsaz, first input transistor 134 and second input transistor 136 are of a matching device type to transistors 138 and 140 of first amplifier stage 92 and transistors 142 and 144 of second amplifier stage 94.

As mandated by case law, “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the

claim.” *Lindemann Maschinenfabrik v. American Hoist & Derrick* (“Lindemann”), 730 F.2d 452, 1458 (Fed. Cir. 1994) (emphasis added). Additionally, each and every element of the claim must be exactly disclosed in the anticipatory reference. *Titanium Metals Corp. of American v. Banner* (“Banner Titanium”), 778 F.2d 775, 777 (Fed. Cir. 1985).

Here, Applicant’s amendment to Claims 1 and 26, as described above, prohibits the Examiner from relying on Rokhsaz as an anticipatory reference since Rokhsaz fails to exactly disclose each and every element of amended Claims 1 and 26. Banner Titanium, supra. As indicated above, Rokhsaz is directed to telecommunications, and more particularly, to line drivers that are used in telecommunications equipment. (See, col. 1, lines 6-8.)

As further indicated by Rokhsaz, communication over communications networks, including the public switch telephone network, and the Internet, including LANs and WANs, may be performed using ATM, ADSL and IDSN communications protocols. (See, col. 1, lines 12-25.) According to such protocols, line drivers are required to recover high frequency components, which are lost when transmitted over wireless transmission mediums; such line drivers to receive a low power input signal and create its power, such that the signal can drive a wireline transmission line. (See, col. 1, lines 26-41.)

Conversely, Claims 1 and 26, as amended, recite the generation of a low swing differential predriver signal pair to open/close a pair of line driver switches of an output driver of a second device type to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto a motherboard for communication over a serial interconnect. In other words, Applicant respectfully submits that the predriver circuit for the output differential driver device recited by amended Claims 1 and 26 is provided for communication within a computer system, such as over a serial interconnection within or over a motherboard.

Applicant respectfully submits that the line driver of Rokhsaz for fiber optic transmission over public switch telephone networks or the Internet using the ATM protocol, ADSL protocol or IDSN protocol neither discloses nor suggest the generation of output differential signals to generate a differential output driver signal pair for a pair of output pads coupled to a pair of line drivers to provide the differential output driver signal pair

onto a motherboard for communication over a serial interconnect, as recited by amended Claims 1 and 26.

Consequently, Applicant respectfully submits that Applicant's amendments to Claims 1 and 26 prohibits the Examiner from illustrating the presence in the single prior art reference disclosure of Rokhsaz of each and every element of amended Claims 1 and 26, as arranged in amended Claims 1 and 26, and required to establish a *prima facie* case of anticipation. Lindemann, supra.

Accordingly, for at least the reasons described above, Applicant respectfully submits that Claims 1 and 26, as amended, are patentable over Rokhsaz, as well as the references of record. Id. Consequently, Applicant requests that the Examiner reconsider and withdraw the §102(e) rejection of Claims 1 and 26.

Regarding Claims 2-5 and 9-10, Claims 2-5 and 9-10, based on their dependency from Claim 1, are also patentable over Rokhsaz, as well as the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claims 2-5 and 9-10.

Regarding Claims 27-30, Claims 27-30, based on their dependency from Claim 26, are also patentable over Rokhsaz, as well as the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claims 27-30.

Regarding Claim 11, Claim 11, as amended, recites an output driver circuit, which is neither disclosed nor suggested by Rokhsaz, including the following claim features:

- a predriver circuit including:
  - a pull-up circuit having at least one pull-up device of a first device type, and
  - a pull-down circuit including at least one pull-down device of the first device type having a source coupled to ground, the pull-up circuit and the pull-down circuit to charge an output node and a complement output node in opposite directions to generate a differential predriver signal pair, including a predriver signal and a complement predriver signal; and
- a line driver including:
  - a first switch of a second device type to generate a complement output driver signal in response to the predriver signal,
  - a second switch of the second device type to generate an output driver signal in response to the complement predriver signal,
  - a first output pad coupled to the first switch to provide the complement output driver signal onto a motherboard for communication over a serial interconnect, and

a second output pad coupled to the second switch to provide the output driver signal onto the motherboard for communication over the serial interconnect. (Emphasis added.)

As indicated by the above-recited features of amended Claim 11, Claim 11 includes analogous claim features to the predriver circuit for the differential output driver of amended Claims 1 and 26. Accordingly, Applicant's arguments provided above with regard to the §102(e) rejection of Claims 1 and 26 apply to the Examiner's rejection of Claim 11, as anticipated by Rokhsaz under §102(e).

Accordingly, for at least the reasons described above, Applicant respectfully submits that the Examiner is prohibited from relying on Rokhsaz as an anticipatory reference, since Applicant's amendment to Claim 11 prohibits the Examiner from illustrating that the single prior art reference disclosure of Rokhsaz includes each and every element of amended Claim 11, as arranged in the respective claim and required to establish a *prima facie* case of anticipation. Id.

Consequently, Applicant respectfully submits that Claim 11, as amended, is patentable over Rokhsaz, as well as the references of record. Id. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claim 11.

Regarding Claims 12-15 and 19-20, Claims 12-15 and 19-20, based on their dependency from Claim 11, are also patentable over Rokhsaz, as well as the references of record. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claims 12-15 and 19-20.

Regarding Claim 21 recites an electronic system, which is amended to include the following claim features, which are neither disclosed nor suggested by Rokhsaz:

a differential predriver signal pair to open/close a pair of line driver switches to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto the motherboard for communication over the serial interconnect. (Emphasis added.)

Applicant respectfully submits that the above-recited feature of amended Claim 21 is analogous to the previously-described features of amended Claims 1 and 26. Consequently, Applicant's arguments with regards to the §102(e) rejection of Claims 1 and 26 apply to the Examiner's §102(e) rejection of Claim 21 as anticipated by Rokhsaz.

As indicated above, the disclosure in Rokhsaz is directed to line drivers for telecommunications that receive a low power input signal and increase its power, such that the signal can drive a wireless transmission line, which has recovered high frequency components lost during communication over a public switch telephone network or the Internet, according to an ATM, ADSL, ISDN or other transmission protocol. (*See*, col. 1, lines 26-41.) Hence, Rokhsaz fails to either disclose or suggest the generation of the differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto the motherboard for communication over the interconnect, as recited by amended Claim 21.

Consequently, for at least the reasons described above, Applicant respectfully submit that the Examiner is prohibited from relying on Rokhsaz as an anticipatory reference, since Rokhsaz fails to exactly disclose each and every element of amended Claim 21. Banner Titanium, *supra*.

Therefore, for at least the reasons described above, Applicant respectfully submits that Applicant's amendments to Claim 21 prohibit the Examiner from illustrating the presence in the single prior art reference disclosure of Rokhsaz of each and every element recited by amended Claim 21, as arranged in amended Claim 21, and required to establish a *prima facie* case of anticipation. Lindemann, *supra*.

Consequently, Applicant respectfully submits that Claim 21, as amended, is patentable over Rokhsaz, as well as the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claim 21.

Regarding Claims 22-25, Claims 22-25, based on their dependency from Claim 21, are also patentable over Rokhsaz, as well as the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(e) rejection of Claims 22-25.

Regarding new Claim 31, new Claim 31 incorporates analogous claim features to amended Claim 11. Accordingly, for at least the reasons provided above with regard to the §102(e) rejection of Claim 11 as anticipated by Rokhsaz, Applicant respectfully submits that Claim 31, based on the analogous claim features to Claim 11, is also patentable over

Rokhsaz, as well as the references of record. Consequently, Applicant respectfully requests that the Examiner allow new Claim 31.

## **II. Claims Rejected Under 35 U.S.C. §103**

The Examiner has rejected Claims 6-8 and 16-18 under 35 U.S.C. §103(a) as being unpatentable over Rokhsaz in view of U.S. Patent No. 6,407,590 issued to Bass ("Bass"). Applicant respectfully traverses this rejection.

Regarding Claims 6-8 and 16-18, Claims 6-8 and 16-18 depend from independent Claims 1 and 11, respectively.

Regarding Claims 1 and 11, Applicant respectfully submits that the Examiner's citing of Bass fails to rectify the deficiencies of Rokhsaz in neither disclosing nor suggesting a differential predriver signal pair to open/close a pair of line driver switches to generate a differential output driver signal pair for a pair of output pads coupled to the pair of line driver switches to provide the differential output driver signal pair onto the motherboard for communication over the serial interconnect, as recited by amended Claims 1 and 11. Accordingly, for at least the reasons described above, Claims 1 and 11 are patentable over the combination of Rokhsaz in view of Bass.

Regarding Claims 6-8, Claims 6-8, based on their dependency from Claim 1 are also patentable over the combination of Rokhsaz in view of Bass. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 6-8.

Regarding Claims 16-18, Claims 16-18, based on their dependency from Claim 11 are also patentable over the combination of Rokhsaz in view of Bass. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 16-18.

### CONCLUSION

In view of the foregoing, it is submitted that Claims 1-31, as amended, patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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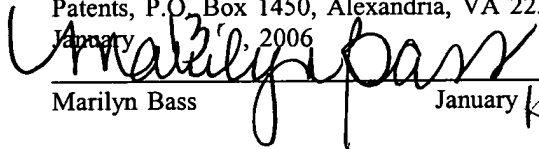
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Marilyn Bass

January 13, 2006